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THE NATION OF THE FUTURE

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THE NATION OF THE FUTURE

A SURVEY OF HYGIENIC CONDITIONS AND POSSIBILITIES IN SCHOOL AND HOME LIFE

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PREFACE

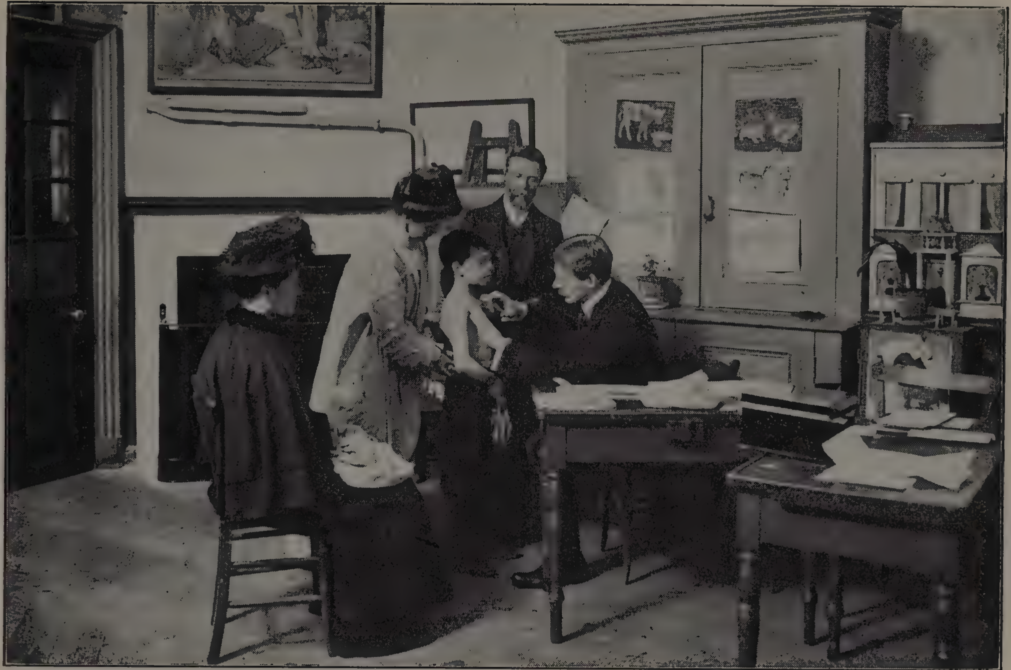
THE collection of papers here published were originally issued separately, in much the present form, in "The Herald of the Star," the Indian 'Commonweal," and in the proceedings of a Congress on Public Health and the Journal of State Medicine, to whom my thanks and acknowledgments are due for permission to reprint. The illustrations are those which originally accompanied the "Nation of the Future," and were reproduced by kind permission of the London County Council. All the papers were written and published before the war, and the war has of course changed our outlook on most things. With regard to the children's question, the change is to make one realize even more intensely the dominating importance in national life of all that affects the child.

I am writing this preface in a camp in France from which soldiers are sent up to the front. Here they are equipped with everything that can be given, but they cannot be equipped with a physical health and efficiency greater than their childhood has left them. Only care of childhood can give us adult men of that force and vigour which is latent in our race, but which often bad conditions deform or suppress.

This preface is no place to moralize on wars, but there is no especial reason for thinking this is the last of all wars. Nor is this kind of war the only kind a nation has to fight: there is the war of commerce, and there is the war of science. Even then if we do not try to unchain the powers of man for the sake of life itself—its vigour, its beauty, its expression—let us at least remember that wars of all kinds are fought better by men and women who, in childhood, were cared for and allowed to be strong, helped to overcome weaknesses.

L. HADEN GUEST.

" Somewhere in France,"
January, 1916.



MEDICAL EXAMINATION IN AN INFANTS' SCHOOL. EXAMINING CHEST.

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MEDICAL EXAMINATION IN AN INFANTS' SCHOOL.
AUTHOR EXAMINING TEETH, ETC.

THE
NATION OF THE FUTURE

CHAPTER I

As I write I have in my mind the picture of the close-set, dingy streets of the South-eastern district of London, where the great three-storied schools rise up, in many of which nearly a thousand children are taught. The infants' department is on the ground floor; next comes the girls' school; and on the top the boys'. Round the school is a space of asphalted playground, enclosed in a high brick wall fitted with iron gates; and factories, workshops, and backs of houses look down over the school walls.

If you choose your time and are armed with the necessary introduction, you may walk into one of these departments and find a "Medical Inspection" in progress. Passing through the outer door you will enter the large school hall, out of which the class-rooms lead, and you will find twenty or more women sitting, somewhat uncomfortably, on wooden chairs against a wall, while children stand or sit or cling (according to size) around them. From the hall you will be ushered into a class-room, emptied for the time of its usual occupants, in possession of the school doctor, the nurse, the teacher—usually the head teacher—an official lady representing the "Children's Care Committee," and one or two parents with their children. If the atmosphere is serene and happy, the child who is being examined will be smiling, the parent at ease, the nurse and doctor working expeditiously, and the Care Committee lady getting prodigious quantities of statistical information as to possibilities of "treatment" and "social condition," with the *sang-froid* of a professional equilibrist. The teacher will be observant and helpful, and the other children in the room interested in the new game of Medical Inspection which involves the feature, new to school life, of the presence of interesting strangers and "mother," and also involves being partially undressed.

For the Medical Inspection a child is stripped to the waist, and the doctor rapidly examines heart and lungs with the stethoscope, and otherwise if required. Then he looks at the ears, nose, eyes, teeth and throat. During this time he takes a general survey of chest, abdomen, and back, asks questions as to illnesses, little fluctuations of health or peculiarities, and confirms or alters observations made by the school nurse. In London schools the nurse weighs the children and measures their height, and makes a preliminary test of eyesight before the doctor arrives at the school. And it is also the nurse's duty, at the time of the doctor's inspection, to note the state of cleanliness of head, body and clothes, the number of flea-bites, and the presence or absence of vermin. Nurse and doctor thus co-operate in forming a judgment on the child's condition, and the observations are all entered on a card under printed headings, which is filled in with the child's name, address, age, and school class before the inspection begins. With the child before him the doctor asks the mother a few pertinent questions, asks the teacher also, and may turn to the nurse or the Care Committee representative for confirmation of a surmise as to under-feeding or home conditions or illness which the parent may be unwilling or unable to confirm.

Thus the Medical Inspection involves a good deal of preliminary thinking out. The children must be chosen from those of the age to be inspected, the parents invited by letter, the children's cards filled up, and the room prepared. The card on which the observations are entered is now stereotyped, and an inspection means that the work of the teacher, nurse, Care Committee representative, and doctor, is all concentrated on the child for a short period, the result being a very considerable gain in knowledge of the child's physical condition, possibilities and limitations. The doctor may find the child has a diseased heart, unknown to parent and teacher alike ; the information is conveyed at once and instructions are given as to care in physical and mental exercise and drill in school, and similar care at home. Or the child may have decaying teeth, which have become to the child and parent so much a matter of course as not to be considered the physical handicap they in truth are. Often too, is the eyesight found very bad ; sometimes one eye is nearly or quite blind, and the demonstration of this comes to parent, child and teacher as a revelation, for eyes are tested separately, but of course, in ordinary life, always used together. Defects of ears, nose and throat, lungs, spine, joints, nerves, skin and bones, may be found, and the defects which may fail to be noticed, or can be "put up" with are almost incredible. Thus ear discharge, which is offensive to all people near by, is still common; verminous conditions are common. Conditions of the decaying teeth and gums which are poisoning the digestion are frequent. To point out a state of malnutrition amounting to serious devitalization, is often to be greeted with the reply that the child "always was pale and thin." Heart disease and consumption are often not suspected, serious deafness and blindness may exist undetected, and curvature of the spine be overlooked.

In a school session morning or afternoon in which twenty-five children may be inspected, anything from twelve to twenty will be found to have some defect or other needing remedy. Most of these defects when remedied will put the child on the level of sound and healthy childhood. Thus decayed teeth stopped or extracted as required, can be completely "cured" in the sense that the child after the "cure" is in a condition of sound health. Skin defects, some eye troubles, and some ailments of nose, throat, ear and other parts of the body, can also be "cured." But not all defects are thus easy to handle. And among other ailments, heart disease, consumption, malnutrition, severe anæmia, and severe affections of the eyesight, nose, throat and ear, even when as effectively treated as our knowledge allows, are still serious handicaps in school and in after life.

Throughout England, medical inspections like those described are going on in all schools. To the great town school buildings and to the little rural places also comes the medical inspector. So that we have the records of inspections of a population of school children which runs into millions. And if the one school inspection is interesting, the figures for all the schools added together are almost overwhelming.

What medical inspection means in the mass, and what it aims at in England, can best be understood from the reports of the chief Medical Officer (Sir George Newman) to the Board of Education.[1] In the 1910 Report, Sir George Newman writes: "The careful medical inspection of each individual child is the only sure foundation upon which

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[1] *Annual Report of Chief Medical Officer to the Board of Education* (price about 1/3). Wyman & Sons, Fetter Lane, London; Eyre & Spottiswoode, East Harding Street, London, E.C.

MEDICAL EXAMINATION IN AN INFANTS' SCHOOL.
AUTHOR EXAMINING SPINE OF A PUPIL FROM THE BOYS' DEPARTMENT,
PARENT, NURSE AND HEADMASTER PRESENT.

preventive or remedial work of a lasting character can be established. The process may to many persons seem slow; it may appear to them that much time, patience, energy, and money are being expended which may be used to better advantage, but I am convinced that the basis upon which the work is being undertaken throughout England is sound, and that the realisation of the result aimed at, namely healthy childhood, can be anticipated with confidence. This does not mean that the Local Education Authority can, single-handed, accomplish all that is required, but by demonstrating with clearness and accuracy the needs of the child in concrete form, and by pointing in some degree to the causes of the disabilities under which the child is suffering, they are able to bring to bear on each individual case those agencies and influences which are necessary to the ultimate prevention or remedy of the defects and diseases discovered."

The most important physical defect found at inspection is malnutrition. It is difficult to define precisely, and therefore there are wide divergencies in the opinions of individual medical inspectors as to its prevalence. Condition of nutrition is noted as good, normal, subnormal and bad, and probably most inspectors would agree that what they class as normal in all schools in poor districts is a condition which is unsatisfactory. But taking the avowedly subnormal class, you get a percentage of 9.2 per cent. in Glamorganshire, 14·4 per cent. in Dorset, 3·7 per cent. in Lincolnshire, and 12.5 per cent. in Surrey, all these being rural areas; in town or urban areas you get 9·6 per cent. in Burton-on-Trent, 8·5 per cent. in Cardiff, 26·3 per cent. in Ipswich and 3.4 per cent. in West Ham. This last district is one of great poverty, and the "normal" of West Ham would probably cause consternation in any comfortably-off family; the "bad" is very bad. An analysis of the causes of malnutrition in 570 children, made by Dr. Chate, in Middlesex, show:—Poverty 29·5 per cent. in boys and 26·1 per cent. in girls; intestinal parasites, 14·3 per cent. in boys and 15·9 per cent. in girls. This is largely due to dirt. Adenoid growths at the back of the nose, interfering with breathing and with digestion, were the causes in 5·5 per cent. boys and 5·7 per cent. in girls. Other causes were rickets (caused by bad hygiene), Boys 4·8 per cent. and girls 3·0 per cent.; decayed teeth, boys 8·1 per cent.

and girls 8·7 per cent. Improper (as distinguished from insufficient) diet, 2·3 per cent., and in 13 cases the cause was overcrowding of the house; in 16, tuberculosis; in 13, chronic bronchitis,; in 11, stomach conditions; and in 10 overwork (out of school hours presumably) with insufficient sleep. In London not less than 11 per cent. out of a total of over 600,000 children suffer from a greater or lesser degree of malnutrition.

The effect of malnutrition in retarding and hindering school work is very marked. The badly-nourished child has not got the physical energy necessary to enable it to concentrate its attention, and it cannot give out in brain and nerve work energy which it has not had put in. Such children are pale, thin, undersized (or unduly flabbily fat), and have dry skin, brittle hair, and are listless, with poor circulations. At play they do not join in with vigour, but slink about out of the way of the more vigorous, furtively trying to warm themselves; in school work they toil arduously after their better-nourished fellows, and are yet left behind.

Another serious condition is uncleanliness. I quote as examples that in Plymouth in 1910, 4·8 per cent. boys and 30·9 per cent. girls[1] were in a verminous condition; in Derbyshire the figures were: boys 7·2 per cent. and girls 39·8 per cent. The condition of dirt and vermin is an indication of poverty and unhygienic surroundings, but is also bad in itself, as it makes children personally offensive to others, and reduces their vitality or their educability by making them restless or impairing the sensitiveness of the skin.

Defective eyesight was found in over 9 per cent. of boys of 12 in Lancashire, and in over 13 per cent. of girls[1] of the same age; in other parts of the country the figures are much the same, but it is noted that children in the country have better sight than those in the towns. Defective hearing is found in from 1 to 2 per cent. of all children. Obstruction at the back of the nasal passages caused by "adenoids" and associated with enlarged tonsils and glands, occurs in from 1 to 16 per cent. of children, varying with the place and with the medical inspector's view of defect needing record. About 1 per cent. of children have heart disease, about 7 per cent. are anæmic; and over 5 per cent. show some manifestation of rheumatism. A defect of a slightly different character is recorded as "feeble-mindedness." From ·25 to upwards of 1 per cent. of children are feeble-minded to the extent of being unable to profit by ordinary school education in the normal way. And this gives a total number of feeble-minded children of more than 30,000. Only about 12,000 of these mentally defective children are at present provided for in special schools. It is also interesting to note, from a special investigation made by Dr. Stirk, of Exeter, on 421 "backward" children, that 67·4 per cent. are found to have some physical defect accounting for their "backwardness," 25 per cent. of cases were attributable to irregular school attendance due to illness and other causes, and only 8 per cent. were not accounted for. Defects of hearing, sight, and enlarged tonsils and adenoids are the three most common defects associated with backwardness. And although there is a difference between "backwardness" and "feeble-mindedness," it is one of degree only, and undoubtedly the same physical causes operate in both classes of cases to produce their "mental" result. If we turn to the records of the United

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[1] Probably the larger percentage of girls with defective vision is due to sewing and indoor occupations; the larger number verminous is due to the wearing of long hair.

States and Canada[1] they have much the same story to tell us. Out of 266,426 children examined in New York in 1910, 196,664 were found to be defective, 12,114 had defective teeth, 2,672 defective eyesight, 3,100 had enlarged tonsils.

The examinations conducted at a school at Bonne[2] in Germany, show marked anæmia in 40 per cent. boys, and 64 per cent. girls, and enlarged tonsils and glands in 59 per cent. girls and 54 per cent. boys. These high figures are probably due to special causes, and are not characteristic. The children of the Australian aborigines examined at Lake Tyers State School showed marked prevalence of enlarged tonsils and decayed teeth. In Western Australia[3] out of 7,784 children examined 3,667 had defects of the teeth, 441 defects of the ear, and 2,598 defects of the throat and nose. In France the same problem of defects had to be grappled with.

Defects exist in the negro as in the white, and interesting comparisons are being made of relative intelligence of these two races from the results of medical inspections in the Southern States of the United States of America. Again, in China, Dr. Bolt[1] reported on the inspection of "several hundred picked students" sent to the Tsing-hua University in Peking, and stated that a large proportion had diseases of the skin and eye as well as other diseases.

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[1] Quoted from *Health and Medical Inspection of School Children*, by Walter S. Cornell, M.D. F. A. Davis & Co. Philadelphia. 12/6.

[2] Quoted from quarterly *School Hygiene* for February, 1913, and November, 1912. Adland & Son, London. 1/-.

[3] *Annual Report for* 1911 *on Medical, Health, Factories, Early Closing, Western Australia*. By T. W. Hope, F.R.C.P. (Ed.), etc. Published by Simpson, Perth.

The defects and diseases revealed by medical inspection are confined to no one country; there are differences between town and country, between industrial and agricultural areas, between English and German, American White and American Negro, but all over the world a great mass of defective conditions confronts us.

Transport your school doctor and nurse, your weighing machine and measuring rod, your eye-testing apparatus and card record system to India, Tibet, or Timbuctoo, and there will be found defects to note, remedies to suggest, causes to be sorted out, and methods of prevention planned.

Medical inspection, so far, may be described as the focussing of knowledge of health on the child, by means of a machine of public health administration, that enables us to take up each child as an individual and deal with it as an individual. That is the immense step forward medical inspection of school children implies; it is not a new knowledge, it is not the proposal of a new remedy, or the discovery of unknown causes—it is the use of existing knowledge and its application in individual cases, according to their individual needs. In this way medical inspection is more than the preliminary to the bringing of health to the child; it is the harbinger of the new method of applying to the individual, and in detail, for any purpose, the knowledge already existing in the world. In those words is the seed of a revolution in thought and in human society.

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[1] Quoted from Report of Chinese Medical Congress in *The Journal of State Medicine*, April, 1913. Royal Institute of Public Health, London. 2/-.

The light of medical knowledge is focussed not only upon the child, but upon the school building and the school furniture made use of by the child. If you will return with me to the room in the London County Council School with which we began, you will find that the doctor does not confine himself to questions about the child's health and its home, but asks also of its school work. And the inspection of children being finished, or more probably on some other occasion, the teacher and the doctor will walk round the school together observing the classes at work, noting the temperature of the rooms, the state of their ventilation, how they are lighted, and how the desks are placed and made. The print of the school books will be looked at, the sizes of the stitches used in sewing classes, the physical exercises and games considered, and the time-table as a whole thought about and discussed.

Notes will be made. Here a new window is required. There an extra radiator for additional heat. Then there may be noted extra lavatories, cloak-rooms or new desks needed. The whole school surroundings of the child are considered, and everything modified as far as practicable to ensure the best possible conditions.

By these two examinations, first of the child, and secondly of the child's surroundings, we are placed in a position to do three important things :

(1) By informing teacher and parent of defects needing remedy, the doctor puts them in the position of being able to adapt the child to the needs of its education ; that is, to make the child's physical body a more effective instrument for the work of its mind.

(2) By considering the school curriculum,

lessons and time-table in relation to the question of health, we are in a position to modify the school work to suit the capacities of the child; and

(3) By systematically noting defects of buildings and school furniture, and suggesting the necessary improvements, we are in a position to alter the buildings and apparatus so as to ensure the existence of the conditions pre-requisite for health.

In these three ways the focussing of our knowledge on the concrete individual problems and difficulties puts us into the way of being able to move forward to a position in which health will be more effectively guarded and maintained, and the mind be freer to perform its work, freer to grow and to expand sanely and efficiently.

The next problem to consider is how the defects of children and school surroundings are to be tackled. And first the defects of children.

CHAPTER II

When a parent is informed, after medical inspection of his child, that one or more defects are present and need remedy, the action taken depends on individual character and individual circumstances. In some cases the parent will at once take action to get the defect remedied; in others not even an effort will be made. The reasons are partly individual and partly social. A very ignorant person will not understand the necessity of carrying out the medical inspector's suggestion for treatment. A very lazy or very foolish person will also fail to carry directions out. But the chief reason for failure to obtain treatment lies in the absence of the means of treatment and the difficulty with which the approach to existing means is surrounded. Many parents of elementary school children are very poor, both mother and father may be occupied daily in earning money to pay for bare necessities of house-rent and food. To expect such persons to sacrifice a half day's or a day's earnings in order to take a child to the doctor or to a hospital, for the purpose of having a defect remedied which is not urgently pressing, in the sense of dangerous or frightening, is not reasonable. The sacrifice might, and probably would mean going without some food or fire, it might create difficulties at the work place—for the worse people are paid the worse very often they are treated. But the absence of means of treatment is a more serious aspect of the problem. For instance, if the parent of a child in a country district is informed by the doctor that the teeth are in a seriously decayed condition, and need attention, he may have the best will in the world—but there is no free or cheap dentistry to be had. Poor working people cannot afford the comparatively high fees charged by most dentists, and if there is no dental hospital—and there are very few in all England—the children go untreated. The same difficulties arise in regard to enlarged tonsils and adenoids, bad eyesight, ringworm of the scalp, and deformities of the limbs and spinal curvature. In other diseases, such as chronic eye discharge, chronic inflammation of the eyelids and of the eyes, infectious sores on the face (impetigo), and verminous conditions, the children afflicted need daily (sometimes twice daily) treatment by a doctor or nurse. To pay for these services is beyond the possibilities of the large majority of the parents of elementary school children, to obtain these services from the Poor Law doctor is not practicable, as he would be overwhelmed with work; and to expect the hospitals and dispensaries to give this detail attention is to expect them to not only more than double their accommodation and their staff, but add special staff and special accommodation for the purpose.

In practice, a very large number of defective children do not have their defects remedied for one or more of the reasons above stated. The question becomes, therefore, how are the defects of school children to obtain treatment?

Before entering into this question in detail, we must consider the effect upon the individual child of the various defects (dealt with in the first chapter) from which it may be found to be suffering. The first is malnutrition, very widespread and most insidious, in that it shows itself in so many different forms. The root difficulty with the underfed child is that it has not got sufficient physical energy to cope with the school life, composed of work and play, or with life at all. The bad effects of malnutrition may be most easily understood by noting the improvement in condition in under-nourished children when properly fed. For this purpose I shall quote the results of an experiment carried out by me in the year 1908, on the children of a poor London school, with the aid of funds put at my disposal by members of the Fabian Society and others.

It may be noted that although "malnutrition" and "under-feeding" do not cover quite the same ground, underfeeding is the chief cause of malnutrition. No doubt irregular and late hours, disturbed sleep, over-crowding, improper clothing, and employment of children after and before school hours do each and all exercise a very detrimental effect on the children of poor parents. But to the conclusion that underfeeding is the chief cause of malnutrition many observations, and the results of some experiments such as that here recorded, do definitely point.

The number of children experimented upon was about 200, and they were given one physiologically satisfactory meal a day. That is to say, the average meal eaten by a child was calculated to make up with the rest of the food obtained at home, the full amount of nourishment required by the child's body in twenty-four hours, and the meals were varied from day to day to avoid monotony.

Physically, the results obtained were good, as was to be expected; but the improvement from the teacher's point of view was very marked indeed. The following quotations are observations by the teachers themselves on the results of feeding. After one month, the report on Standard VI. and VII. boys ran: "The boys in this class, six in number, have with the exception of one, certainly shown increased mental activity, and seem to apply themselves closer to work. Their attention is more sustained, and restlessness gone." The report on Standard III. includes the observation of "greater capacity and inclination for the school work." The Headmaster, speaking of the boys as a whole, says that the boys are "almost all brighter. The improvement is particularly noticeable in their play. They are more vigorous and enter more heartily into the rougher games of boys, and bear the knocks without coming to teacher to complain. . . . There are few lads shivering against the wall with hands in pockets, sloping shoulders, and pale faces." The head-master also speaks of "greater independence of character, and generally a greater individuality," of "less fatigue in lessons, and the lads are capable of more continuous exertion." The reports on the girls were of the same character, but not so decided in tone; but one report was universal—the fed girls were "more troublesome"; that is, more full of vitality. Their play, also, was more vigorous.

These good results were obtained by feeding some of those 11 per cent. of badly nourished children in London. And from these results it is fair to infer that similar good effects would follow from the supply of food everywhere. So strong has this conviction become in England and on the Continent of Europe, that a very large number of children are supplied with meals in many of the large and some of the small centres of population.

The evil results of malnutrition may be summed up as impaired physical vigour, impaired emotional control (noted in my experiment), and impaired power of mental working through the nervous system. In other words, the obvious effects of insufficiently supplying the machine of the body with the fuel it needs for its activities.

The remedy is simple—Feeding. Not any kind of feeding, but physiologically satisfactory feeding. The most efficient way of securing this will be discussed when the treatment of other defects is dealt with.

The next most important defect, because so widespread, is dirt, with the presence of vermin on the head, body, or clothes. This is one of the causes of anæmia, by actual depletion of blood; it interferes with sleep, and so with health; it renders the skin less sensitive, and so makes the body a less useful means of contacting the outer world. The insensitive child does not get many impressions it might get, and as dirt is objectionable to clean children, the verminous child loses opportunities for friendly intercourse with its fellows.

Defective eyesight, one of the commonest, is one of the gravest of child defects. Clearly a child who cannot see, cannot learn in the ordinary way. This fact is recognised in the provision of blind schools. But it is equally true that a child who sees with difficulty will learn with difficulty. A child with defective sight does not see what the teacher writes on the board if it is at any distance, and does not see pictures on the walls.

More important, the defective child does not see what is going on around him, in the street, in the home, in the countryside. And not seeing much of life, it is to him as nothing. A little London boy supplied with spectacles a short time ago gazed with astonishment on the new world opened to his gaze, and said, finally: "So that's what my brother has been talking about." The defective sighted boy had thought his brother "made up" his stories of the world which to the other did not come within the range of his perception.

A great deal of difficulty is experienced, sometimes, in persuading parents of the necessity for the treatment of decayed teeth. If the child is young, the parent will say that "The teeth will drop out." If the child is older, the phrase will be: "Oh! he never complains!" But the danger of defective teeth does not lie in either pain (unless that be excessive), unsightliness, or inconvenience, but in the damage done to the body as a whole by interference with digestion and the absorption into the blood of the products of the decaying teeth in the gums. A few decaying stumps in the mouth pour a continual discharge into the mouth, and so into the stomach, causing in this way indigestion and interfering with the absorption of the food. They also pour their discharge, which is of the nature of the discharge of an abscess, into the blood, and upset the whole body, causing anæmia and depleting the vitality.

Enlarged tonsils and adenoid growths blocking up the air passages at the back of the nose have far-reaching results. Great enlargement will compel the child to breathe through the mouth. This increases the risk of infectious illness conveyed in the air; it also affects the shape of the chest and the method of breathing. And this defect is often associated with great mental dulness and backwardness in school work. The enlarged diseased tonsil is frequently a source of poisoning for the whole body, in much the same way as are carious teeth.

Without going into further details, we may say that all the defects of school children which are ordinarily found at a medical inspection, although not acute or dangerous to life in the present or immediate future, are in need of skilled treatment as soon as practicable after they have been discovered. This is necessary for two reasons; firstly, it is necessary to improve the child's condition so that it is raised to the level of its own physiological possibilities; and secondly it is necessary, if the expense of education—usually paid by the public—is to be made good use of, that is made use of by children who have the physical apparatus, the bodily organs and senses, which are pre-requisite to education.

The absence of means necessary for treating the defects discovered at medical inspection is not surprising; it is inevitable. Existing "medical machinery," whether in Europe, America, or the East, exists first and foremost for the purpose of curing acute diseases (all the private doctors, dispensaries, and hospitals do this); and secondly, for the purpose of adopting such measures of sanitation as shall prevent the inroads of infectious illness and improve "public health" in a general way.

The discovery of the more or less "chronic" defects of school children opens up a new chapter in medical work. This chapter comes midway between the purely preventive side of "public health" work and the purely curative side of the private medical practitioner. Existing institutions can be, and have been to some extent, adapted to treat the defects of school children; but they cannot treat them all—many hospitals have tried and given up the task—nor treat some of them at all, nor treat most of them in the way necessary from the standpoint of the school doctor, who has not only cure in his mind, but also prevention.

One of the most striking results of medical inspection in America and Europe is the demand it has called forth from numerous individual doctors engaged in the work, for the creation of a special means of treatment for "school" defects. The special institution created to deal with the defects discovered by medical inspection of school children is usually referred to as a "school clinic."

Very numerous school clinics are springing up all over the world. Those wishing to pursue the matter further cannot do better than read *School Clinics at Home and Abroad*, by Dr. Lewis D. Cruikshank, published by the National League for Physical Education and Improvement, at 4, Tavistock Square, London, price 2s. 6d.

It has been found by experience that a school clinic has to provide for the treatment of a number of different defects, and that each of these can be dealt with separately in a department, and each may be inaugurated, if required, by itself. Dr.

Cruikshank classifies the departments of a clinic as follows :—

(*a*) General medical department—
    1. Treatment of minor ailments.
    2. Cleansing schemes.
    3. X-ray treatment for ringworm.
(*b*) Ophthalmic department. (Eye defects.)
(*c*) Dental department.
(*d*) Orthopædic department (deformities).
(*e*) Operative department (nose, throat, etc.).

Minor ailments are taken as a rule to include all those troubles which require daily attention by a nurse—skin diseases, eye discharges, ear discharges—although the latter " defect " may be very far from being " minor " in its importance. Cleansing is, unfortunately a very necessary part of all school work at present, and X-ray treatment for ringworm will be used until this pest is stamped out.

Each division of *a* can, of course, be separately begun. The supervision of a doctor once a week, and the daily work of a nurse, is all that is required for the treatment of minor ailments. A room or tent, a table, a few chairs, and a few simple medicines are all the apparatus required. The other departments under *a* can also be separately begun.

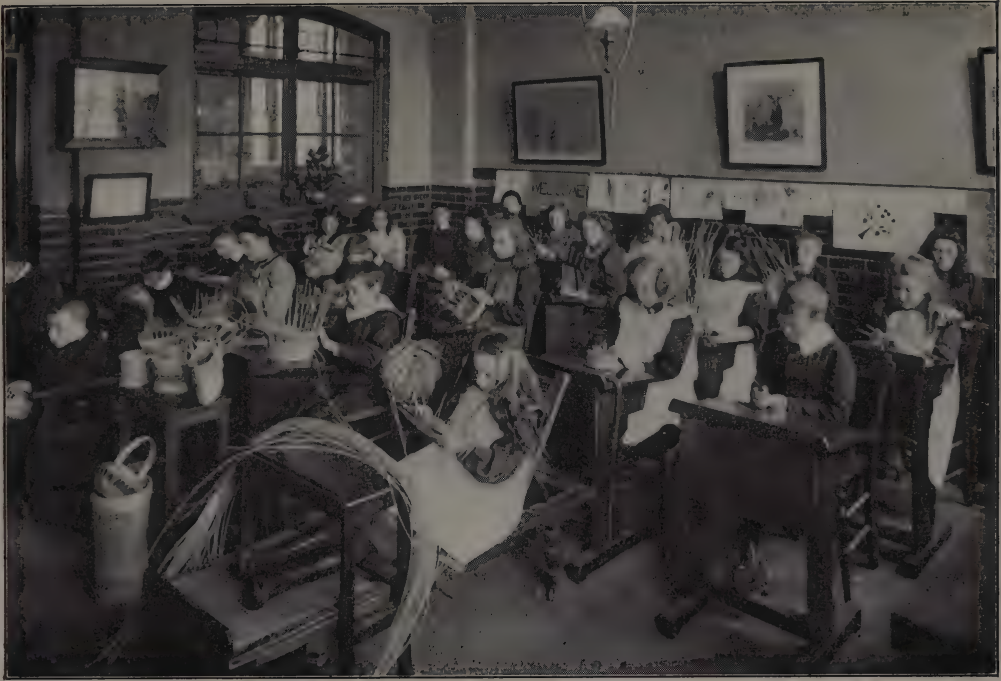
The institution of an ophthalmic department is necessary if there is no public institution near by, where treatment for defective eyesight can be obtained.

A dental clinic is necessary practically everywhere, for the care of the teeth and the importance of that care is only a discovery of the last few years. The same applies to the orthopædic department, where the deformities of children, wasted limbs, flat chests, and crooked backs, are attended to. For the most part, there has been little done for these handicaps to life in the past. The operative department refers, largely, to operations on the nose and throat, for the removal of enlarged tonsils and adenoid growths. But other minor operations can also be done there.

It is, then, by means of the school clinic, following upon the medical inspection of children, that their defects are to be treated. The recognition of this fact is world-wide. Clinics exist in England, Scotland, and Wales, in Austria, France, Belgium, Germany (some of the finest in the world), Norway, Sweden, Denmark, Finland, Russia, Switzerland, Italy, Spain, Australia, Canada, and the United States of America. There has been no pre-arrangement among those countries, in each the school clinic has followed inevitably on the heels of the medical inspection. And the pressure of the facts revealed by medical inspection will call imperatively for the same remedy everywhere, whether the inspection be in the West or the East, in the cold Northern countries or in the warm South.

Medical inspection of school children reveals defects which are common to the children of the human race in all parts of the world, and belonging to all its subdivisions of which I have been able to get any knowledge. The cure of those defects by school clinics, or, better, their prevention, will achieve one of the most striking changes in the physical well-being of mankind that history has to record. Contemplating the massed statistics, the records from all countries, we get the impression of the human race waking up to a sense of the value of its child life, an impression of the human race determining that, what of service we know for the improvement of mankind, that serviceable knowledge shall be applied.

The question of the " cure " of malnutrition by feeding still remains to be considered. The Education Authority, which is responsible for inspection, and is becoming in more and more



FRIERN ROAD SCHOOL FOR THE PHYSICALLY DEFECTIVE.
THE BASKET-MAKING CLASS.

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BY THE EDITOR OF
B. M. J.

cases responsible for treatment, must deal with this also. It should be part of the responsibility of the school to see that every child attending its instruction is properly fed. This can only be determined by medical inspection. If children do not in fact (whether the reason be carelessness, or ignorance, or vice) get adequate food at home they should be fed by the school authority. If the parents can be trained, persuaded, or helped to give their children adequate food, this should be done—*but meanwhile the child should be fed.* To refuse to feed a child because the parents are known to be in receipt of a wage adequate to supply proper food, is to use the ill-health of the child as a method of argument with the parent. That, in my opinion, is not an allowable argument.

The only procedure which will meet the case of the underfed child is a simple but thorough one. Every child in the least suspected of undernourishment should be submitted to medical inspection. If the cause is under-feeding, then the child must be fed. If some other defect exists, then that must be treated. But the condition of the child should be the criterion for feeding, and not the social condition of the parents. The method of feeding is similarly simple in principle. The "food-value" of the child's diet at home should be approximately calculated, and a meal, or meals given by the school authority, in addition, sufficient to make up the food in twenty-four hours to the amount known to be requisite for a child of that particular age. School meals are best given in a place separate from the main school building, and where the refinements of life can be inculcated, as well as food given; but those details must depend on each individual country. The main necessity that each child getting insufficient food should be supplied with sufficient food, is one of those simple and elementary human facts which are in all countries the same.

By school clinic treatment, and by feeding, most of the defects of school children can be dealt with, but there remain other remedial measures to be considered. There remains, also, the question of the causes of the defects found in the children. Can we not only cure the defects when present, but by discovering the causes prevent those defects ever originating?

To these questions we will now turn.

CHAPTER III

In the course of medical inspection a certain number of children are found who are normally healthy and normally intelligent, in a word fit for the ordinary school. But others require medical treatment to fit them for these schools, a large number require feeding to bring them up to the level of health at which school teaching is helpful, and yet others are altogether unfit for the ordinary schools.

This unfitness may be physical or it may be mental. A seriously deformed child, or one with severe heart disease, is out of place alongside of normally healthy and active children. A very dull, backward or mentally defective child cannot profit by instruction suitable for those of average quickness. All these groups of children need special treatment, and there are others such as the blind and the extremely short-sighted (the "high myopes"), the deaf, the very "nervous," the epileptic, the tuberculous or those threatened with tuberculosis, and the stammerers. For each and all of these groups of children special provision is actually made somewhere, and all of them need specially providing for. London, in England, provides for mentally defective, deformed, tuberculous, blind and deaf children among others. Germany has pioneered in open-air or "forest" schools for those who are "delicate" and therefore likely to be afflicted with tuberculosis. America is doing valuable service in showing the open-air school adapted for the town and for all weathers. (Some American children are provided with Esquimaux costumes in winter and have their lessons in the snow.)

The causes set in operation by medical inspection tend inevitably to split up the heterogeneous mass of all kinds of children, sick and well, bright and mentally deficient, into specialised groups, each able to profit from schooling best if it be presented to them in an especially suitable way. But the classification and separation off from the normal mass of children of the special groups of which we have spoken is a help, not only to these special groups themselves, but to the normal mass. If children below a certain mental level or below a certain level of physical vigour are members of a class, the whole class is retarded because of them. And conversely because brighter and more vigorous children are in the class, the duller and less vigorous are left behind or strained. For the sake of both kinds of children therefore separation is beneficial.

The adaptation of the kind of education given, and of the surroundings in which that is given, to the child can only take place when the different groups of children needing special education are thus separated out. The classification of children therefore is one of the necessary pre-requisites to their efficient education. Each group needs special education. The blind child must have his hearing and his sense of touch educated to serve the place of eyes. The "high myope" must also be educated in this way, but his remaining power of vision exercised also so as to keep it active while not overstraining and destroying it. The deaf child needs a special school where he can be taught to see how sounds are formed by the lips, and thus aided to understand others speaking, and to speak himself. The mentally defective must be coaxed to exercise his undeveloped mind and its powers awakened through the use of the hands and limbs, through movements and the sense of touch. The child crippled by heart disease or deformity needs allowance made for his deficiency, special furniture provided, and special protection ensured. The tuberculous or " pre-tuberculous " (that is, likely to contract tuberculosis) child needs an open-air environment. And similarly with the other groups of children mentioned. More and more as medical knowledge comes to be applied to the life of the school child, more and more is the scheme or system of education being modified to adapt it to the child.

The special adaptation of education to particular groups of children is one of the most helpful tendencies in the modern school. By this means the worsening of existing defects is arrested, and much improvement in conditions is often obtained. Sometimes the effects are definitely preventative. The open-air schools fortify little children against a tuberculosis to which they would otherwise have fallen victims. High myope (very severe short sight) schools preserve and make useful the remnants of power of the eyesight.

The special kinds of education of defective groups of children are thus seen to be partly curative and partly preventive from the doctor's standpoint. From the standpoint of the educationist they are adaptations of method to special cases, and they may therefore be regarded as educational experiments. A good deal is indeed learned from these experiments, and it is significant that Dr. Montessori got her inspiration for the ideas which she has so wonderfully applied to the children in Rome while studying the mentally defective.

A study of the medically remediable defects of school children, enlarged tonsils and adenoids, decayed teeth, discharging ears, and so forth, a study of malnutrition (largely underfeeding), and of the groups of children who need specialised education, brings up the question of the causes of these conditions.

We discover many defects at medical inspection, and we "cure" them by medical treatment or by feeding, or we provide the special schools or classes required. Can we not go behind these conditions, and by discovering their causes, tackle them before they have time to produce their effects?

The causes which produce the defects of school-children are not simple in character. They are complicated as is our social system. The causes fall, however, into two great divisions: those which operate within the school, and those which operate outside. The inside of the school is completely under the control of the school authorities, and nothing causing a defect of health in children should be allowed to remain. But while knowledge expands rapidly, school buildings once erected are fairly permanent, and school furniture and school equipment once bought are expensive to replace. And, in consequence, we find in many places conditions of school buildings and of school furniture and school equipment, which cannot be defended. The last report of the Medical Officer to the Board of Education in England and Wales[1] mentions, for instance, that the inside of some schools was so dark that the test for vision could not be carried out there. A more drastic condemnation of schools could not be imagined. For if a school is so dark, owing to ill-placed and insufficient windows, that a child cannot read easily, its eyes will be inevitably damaged. And very many schools, although not so badly lighted as just mentioned, are so badly lighted that they seriously injure the children's eyesight.

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[1] *Annual Report for* 1912 *of the Chief Medical Officer of the Board of Education.* Wyman & Sons, London. 2/6.

In the majority of schools the water supply and washing accommodation are inadequate, so that the children cannot keep properly clean. In very many schools the desks are so badly shaped that they encourage lateral curvature of the spine, and stooping of the shoulders. Almost usually, ventilation is so poor that at the end of any lesson the air in a class-room will be unpleasantly "stuffy" to any one coming in from the outside. (This "stuffy" feeling is one of the best tests of ventilation.) And "stuffiness" means liability to "colds," tonsilitis, and general depletion of health and vitality.

School books, again, are more often than not printed in a type which is known to cause an undue strain on the eyesight, and children are taught "sewing" in a way which is definitely injurious.

To all the defects of school surroundings, furniture, and general equipment, medical knowledge is being applied, and a constant pressure exerted to produce change in the direction of the health-securing conditions. Ventilation is being steadily improved, as is also lighting, warming, and lavatory accommodation. The standard sizes and shapes of type have been ascertained and are laid down in a report by a special committee of the British Association[1] which is generally accepted as authoritative. In all ways the school environment is being modified to better fit the child. More exercise, more fresh air, more fresh interest in the lessons, more freedom, less " discipline " in these directions is education being modified. But outside all this lies the great realm of the world beyond the school, and in this realm lie most of the causes that produce ill-health. Can we deal with these, too ?

Some of the causes outside the school act directly on the school child as such in a way we can comparatively easily affect. Others are further beyond our influence. A cause that contributes largely to the ill-health of school children is employment out of school hours. Many and many a boy or girl whose whole energy ought to be spent in growth, physical and other, wastes its strength on taking round milk or newspapers. Thousands of children work in factories as half-timers, largely in Lancashire, England, in the cotton trade. Children work as street traders, as helps at home-work in sweated trades, and all too often as domestic drudges.

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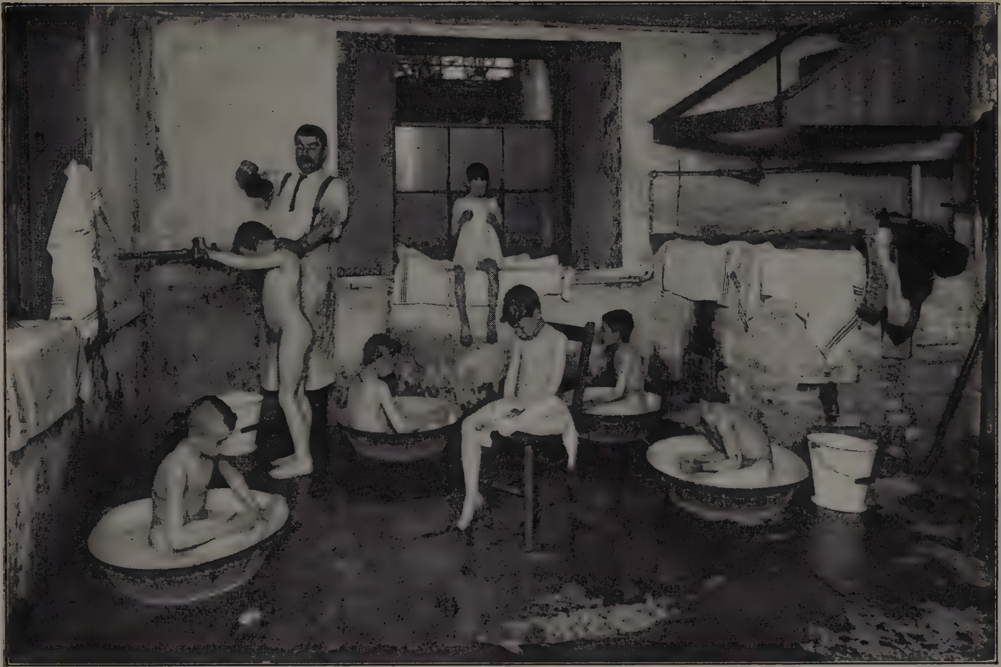
[1] *Report on the Influence of School Books upon Eyesight.* British Association for the Advancement of Science, Burlington House, London. 4d.

A great deal of such work can be prevented, and the half-time system should be extinguished as rapidly as possible—it is a discredit to all concerned, for it means wasted life. What, then, are we to say of certain States of America (again cotton comes in !) and of the East, where children work "whole-time," and where education is entirely sacrificed to the gaining of a miserable pittance ? Only that such utter barbarism should be swept away at once.

The regulation of school surroundings and the abolition of child-labour does not, however, either cover the ground of prevention or end our responsibilities. In the home itself is found the origin of many school defects. If the home is dark and dirty, the child will be unclean, and possibly afflicted with decaying teeth, diseases of the nose, throat, and ear ; and many others, including poor eyesight. And to get the home light and clean may be beyond the scope of the school organisation. But every school should have attached to it—and many schools have attached to them—workers, voluntary or paid, who will visit the homes of the children, get to know the parents, and bring the teachings of hygiene and hygienic common-sense into the homes themselves. This is the line of work of the School Nurse, the lady Health Visitor, or of the voluntary member of a Children's Care Committee.

Much can be done in these ways, but much of evil, unfortunately, cannot be touched by any means yet specified. And of these untouched things, poverty is the chief, the evil which is most widespread and most disastrous. Remove poverty, and other difficulties could be dealt with easily; leave poverty, and all other difficulties are increased manifold thereby. The influence of poverty is well seen when we come to analyse the ordinary defects of school children from the standpoint of treatment.

If one takes the whole list of children in any school who are suffering from defects needing medical treatment, they will be found to divide themselves into two groups. One set of children will have medical defects pure and simple; they will be normally healthy, of normal growth and intelligence, but their eyesight or the condition of their teeth, or some such defect, will need correction. The other set, while showing similar medical defects, have the added defect of poverty. We may call these two sets of children the



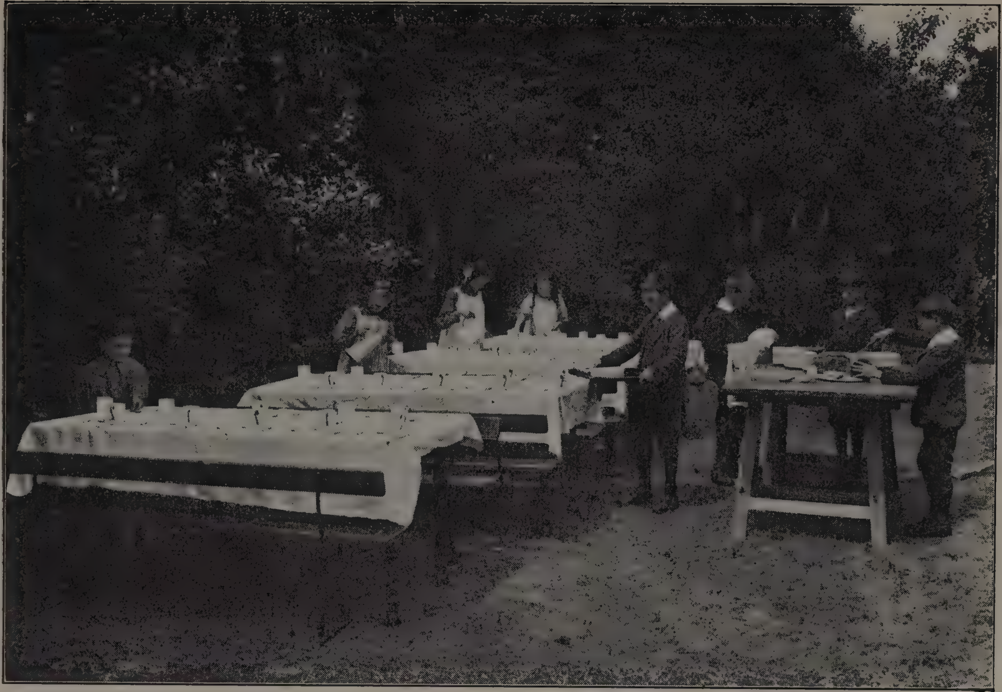
MONTPELIER HOUSE OPEN-AIR SCHOOL, KENTISH TOWN THE MORNING BATH.

"medical group" and the "poverty group." The difference is vital, for while it is comparatively easy to get effective remedial treatment for the medical group, it is very difficult to get it for the poverty group. Indeed, one part of this poverty group, who are found to make up about ten per cent. of the number of children in schools, very often gets no adequate treatment at all. This lowest ten per cent. are also dirtiest and most neglected. Poverty acts in these cases by undermining the health through lack of sufficient nourishment, bad housing, and insufficient or bad clothing. But poverty also undermines the morale of a home. Order, cleanliness, even decency, may be, and often are, practically impossible, so that a child coming from a poor home is handicapped not only physically, but morally, and because of the ignorance which poverty engenders, mentally also.

The other causes which we have considered which produce effects upon school children can be largely dealt with through the school organisation by modifying that organisation. Poverty cannot. Our civilisation at present is founded upon poverty, and if, in considering it, the School Doctor is bound to say that it is one of the greatest evils afflicting the school child, we can either, remaining within the ambit of the school medical organisation, try to mitigate it by medical treatment, school feeding, and so forth, or we can rise beyond the merely school considerations, and plan to prevent this evil as we plan to prevent others.

The mitigation of poverty from the standpoint of the educationist can only be fully carried out when we undertake to supplement, in the case of a school child, everything—food, clothes, holidays and amusements, for instance—which the home fails to provide. Some way in this direction we have already travelled, and some way further we shall certainly go. But there is a limit to the length to which the communal provision of the necessities of life for a school child may go, a limit to be found perhaps only by experience. Ideally it would be best to have every home so well equipped that no child should ever go to school dirty for the want of a bath or washing facilities, or hungry for lack of food, or badly dressed for lack of sound clothes.

And, considering these matters, I do not, personally, hesitate to go outside the ambit of the school organisation, and to declare for the



BIRLEY HOUSE OPEN-AIR SCHOOL. PREPARING TABLE FOR OPEN-AIR MEALS.

abolition of poverty as the most essential of reforms. How to accomplish this lies outside the scope of this book, but the measures designed to achieve this end must be based on the explicit assumption on the part of the government of responsibility at all times, and in all places, and under all conditions, for the well-being of every citizen. That is to say, that the government should make it its first duty to guard its citizens against any of the multitudinous combinations of events which may bring them to poverty. Poverty should be guarded against like the chief disease of humanity, which it is, and stamped out as rigorously as typhus fever or small-pox are stamped out.

However, we cannot wait for the sweeping social changes which the government assumption of responsibility for the individual well-being of all would bring in its train. We have to take schools as they are, and conditions as they are, and improve those in so far as we can.

Some of the improvements most urgently needed are very simple. The first is cleanliness. Most schools are dirty. They are insufficiently washed and insufficiently brushed and dusted. That is a matter of money only. A school, if it is to be a centre of good influences, should be at least as clean as a good home. It is frequently much dirtier.

Another simple change also affecting cleanliness has to do with cloak-rooms. Of the six million children in schools in England and Wales, for instance, from two to three million are more or less unclean as to their heads and bodies. Many are verminous. To prevent the spread of vermin from the 10 per cent. of bad cases previously mentioned, and who constantly harbour them, we need larger cloak-rooms, with completely separated pegs for the caps and outdoor clothing of each child. A cloak-room where caps and clothing are huddled together favours the spread of vermin. Again, if children are to be taught to be clean, they must learn, and for this purpose more lavatories, especially more school baths, are needed. School baths, where children can be taught the method of washing, and the pleasures of cleanliness, should be accessible to all. More fresh air is another necessity. Open-air schools are good for the ailing child. Why not for the normal child? is a question which is coming to be asked more and more. And the probability is that in the future we shall have less and less of the heavy barrack-like type of schools common in our large towns, and more of the open-air type, at present chiefly confined to the special schools for the sickly. A great deal of money can in this way be saved on buildings, with benefit to education, which sadly needs expenditure on more and on better-paid teachers.

Other directions in which reform will go are towards more and better school feeding of school children. The school meal might profitably be given to more than double the number of children who at present receive it in England and Wales, for instance. The school meal might also be made definitely educative, as it is not now, and should always be given under conditions of hygiene and good manners which are at least not inferior to those prevailing in the schools themselves. These conditions are not often complied with at present.

Taking into consideration reforms just indicated, the necessity for school clinics, and greater classification of and special provision for, different kinds of children, we are in a position to plan out the school of the future.

The normal type of this school should be the open-air school, and it should diverge from this type only as local necessities may make imperative. The children in the school should be not only inspected medically, but medically treated for any defects they may present. The different groups of children needing it should have special treatment and special teaching.

Nothing in the school, or within control of the school organization, should be capable of injuring the child. The old lumber of defective desks and seats, and of books with crabbed texts, should find no place. The buildings, the furniture, the books, and other school equipment, should all pass under the scrutiny of the school doctor, and be approved before being used.

More important still the curriculum should be submitted to the doctor also, and study and exercise duly balanced, to give the conditions for perfect health for the growing child, which is a possibility hardly ever realised at present.

The provision of food and clothing should be as much a matter of course, in cases of necessity, as the provision of medical treatment. But as important as any other reform is the provision of more teachers and of better-paid teachers. Frequently, now-a-days, does the school doctor find a teacher with a class of forty, fifty, sixty, or more. To " teach " this number is not fully possible.

They can be controlled under a plan of "discipline"; they can be, to a certain extent, instructed, but not helped in the degree they might be to grow into knowledge, which is what true teaching implies.

The changes which are here indicated, and many others of detail not mentioned, inevitably suggest themselves as the results of medical inspection. And as medical inspection continues, and as first one bit of the reformed plan is applied here and another there, the pressure in the direction of reform will become ever greater and greater.

Some countries, such as India, have very little of medical inspection at present, although it has begun in Baroda, in Madras, and in the Panjab, among other places. But medical inspection can be applied everywhere, and everywhere the same general conclusions will be reached. The chief of these is that medical science should be preventive. We should discover illness not only to cure, but to unveil the cause behind, and prevent its operation upon others. And as inspection is good for the school child, it is good for the infant below five years, and for the "young person" above fourteen.

Indeed, in the future, we may look forward to regular systematic medical inspection of all infants, school children, and probably of all young people. And we may look beyond the inspection to a system of treatment and a system of prevention, which shall raise the standard of physical vigour and mentality of any race it may be applied to one hundred, or even many hundred, per cent. But the vista thus opened up is not all. The application of science to life is only begun by medical inspection, which is, indeed, only one aspect of this application. The process must inevitably go further. The teacher wants to know not only how a child is physically equipped, but much about the mind and the emotions and the intuition. How science can help the teacher to this knowledge, and how this knowledge will aid in the upbuilding and improvement of the race, will be the subject of the next chapter.

CHAPTER IV

TEACHERS may sometimes think that the doctor who comes to the school as medical inspector over-estimates the importance of the physical, and over-emphasises it. In so far as there is any ground for this feeling on the part of teachers, the next step along the path of medical inspection will remove it.

We have now in operation, in most civilised countries, a scheme of inspection of the physical body, and in certain cases an attempt is made to estimate mental capacity. Following from this inspection come plans for special teaching of definite groups of children, such as the blind and deaf, and arrangements for treatment. In addition to this, we try to discover the causes producing defects in school children, and to prevent these causes being set in operation.

But just as a regular and systematic inspection of the physical body is possible, there is possible also a regular and systematic inspection of the mind and of the emotions.

The inspection of the future, when it is complete, will indeed be an inspection physical, mental and emotional, and the result will give to the teacher a very complete and accurate picture of the child's possibilities.

One of the most helpful discoveries of medical inspection from the teacher's point of view has been that of defects of vision and the other senses. The treatment of defects of the senses renders many children educable who could not otherwise be dealt with at all. The child who cannot see to work, for instance, does not begin to learn easily until spectacles are provided. Another valuable discovery is of those groups of children whose defects unfit them for the ordinary type of teaching. The separation off from the main body of children of those who need specialised treatment is very helpful to the teachers.

Now, the mind itself is marked by defects and by peculiarities just as much needing special teaching and treatment as any defect of the senses.

For instance, different types of mind learn in different ways. Some persons when they "know" a thing will visualise it, others will hear it. This can be ascertained in any individual by discovering from him how he remembers anything. Some persons when so questioned, will say that they "see" what they remember, others that they "hear." It is as though one sense avenue were predominant in this person, another in that. Closely allied with this is the importance of the sense of touch and the sense of weight pressure and balance, the muscular sense; on the due education of these more primitive (because less differentiated than sight and hearing) senses depends a good deal of our appreciation of the world.

Taste and smell normally do not enter so closely into touch with our ideas as sight and hearing, but they enter closely into touch with our feelings, our emotions, and perhaps that large part of us of which we are normally "unconscious."

To discover with regard to any particular child the part played in its mental life by the different senses is to know how best to help that child's mind to grow. For instance, if a teacher is predominantly "visual" in mental type, and a pupil predominantly "auditory" the teacher will be speaking in "visual" terms which the child cannot comprehend. Probably some of the mysteries of teaching vaguely ascribed to "personality" in the teacher are explainable along these lines. An "auditory" thinking teacher will get into close touch with an "auditory" thinking child because they are, so to speak, both thinking in the same language. And any teacher who studies a child and talks to it in terms of its own ideas will get more closely into touch with that child than one who does not, or has not time to, make this attempt.

An "inspection" then of the minds of children with the object of ascertaining the mental type would give the teacher most valuable information. Equally necessary is an inspection of the mind of the teacher, and any who care to do this for themselves may be very surprised at the result. A simple test, applicable to an educated adult, is to have some scene in town or country described as accurately and as vividly as possible. In this description it will be found that one person uses predominantly "visual" descriptions, another "auditory," and so on. Some people use all avenues of sense perception, and thus probably get a fuller "view" of the world around them.

The difference in mental type can also be discovered in the poets, novelists, and descriptive writers, some using one set of sense epithets predominantly, others another. The most vivid writers, and those whose appeal is widest, will, other things being equal, be those who use epithets derived from experiences of all the senses as aids to getting into touch with their readers.

It is found by experience that mentally defective children and those who are backward, learn better through the sense of touch and the use of their hands than by the use of their eyes and ears. And this element in mental growth is important in all people, and may have an especial importance in some who are not mentally defective, but who would be mentally brighter and more efficient if touch and muscular movements were developed.

Probably much more might be done with taste and smell than is done. Both these senses tend to be neglected, but both might be cultivated, made more definitely discriminative, and refinement made more easy, and life enriched thereby.

Apart from these problems of type of mind in relation to the senses, are problems more definitely of the mind itself. Why does one mind find mathematics easy and another difficult? On what do differences of this character depend?

A mental inspection which would give us a knowledge of the mental type, which would arrange those types according to their degree of development, indicating here a weak spot in association, there a sense perception needing help, would help materially in our estimate of educability.

Inspection of the emotions may do even more. It is thought by psychologists of the modern Freud and Jung School that the emotional life of the adult—that is to say, the chief part of his life—is more or less determined by the experiences of the first five years. This applies to sex life as well as all other emotions, the flowering of sex life at puberty being merely the terminal event in a long series of causes and effects which begins in infancy.

The psycho-analist, as medical experts in this particular kind of psychological medicine style themselves, has already proved that many nervous and neurasthenic conditions are caused not by physical troubles but by purely emotional and mental disturbances, and in particular by psychic conflicts of different kinds. Such a conflict, for instance, as that between a desire which exists and the moral feeling that it should not be indulged. A conflict of this kind may produce an apparently physical disease, of which paralysis of a limb is an example.

The foundation for many of these mental and emotional troubles in adults is laid in early childhood. By a special diagnostic technique the psycho-analist can get at the heart of the malady and by, as it were, arranging or orienting the patient's mind for him, obtain a cure. But the same thing can be done for the child. A knowledge of the importance of emotions and of the mechanism of their working would enable the teacher to "arrange" the child feelings and thoughts so as to prevent injury. A pyscho-analytic inspection of emotions would enable the doctor to point out to the parent and the teacher just how the child needed to be treated in order that it should grow healthily and freely.

When one realises this possibility and realises, too, that practically all teachers at present have no knowledge of the emotions which will help them with children, one must rejoice in the innate health of man that enables him to get even so much as he now does out of existence. There is, perhaps, no school in the world at present where the training of the emotions is understood, or where any special attention is paid to this side of existence.

What an immense help forward in evolution there will be when all the needless emotional strain, wrong expression, repression, and injury are avoided. All the tragic little sufferings and little fears of children swept out of the schools, and the sunlight of kindly knowledge let in.

In the school of the future there will be placed in the teacher's hands not only a physical description of the child with the weak spots (defects) noted, but a mental and emotional description with peculiarities and morbidities pointed out. Before the teaching begins then, the teacher will already know what the child can do, and how the child must be approached. And a few years' experience of these kinds of reports, which will mean the experience perhaps of some thousands of children, will develop in the teacher a power of judgment which should prove exceedingly helpful. For it will become clear that certain types of children can do this kind of work, and certain other types do that; and it may even become possible in the junior department of a school, to "spot" the future mathematical "wrangler" just as it is possible to do this among the freshmen at the Universities. Education, then, will be much less crude than at present, progress of the children much more rapid, and the general standard of refinement and intelligence rise correspondingly.

An educational system of the plan here outlined will require teachers of the very highest type, and in order to fit men and women for such positions the plan of training will need to be drastically changed. Probably the time expended in training will need to be extended, and its character raised so as to make it more nearly compare with that exacted from candidates for the medical and other learned professions. But it will certainly not be possible for the teacher to be expert in all that appertains to the child, just as it is not possible for the doctor to be an expert teacher. Therefore, it will be necessary for teacher, doctor, and probably psychologist and sociological expert, to learn to combine together and work as one mind in the interests of the child.

This concentration of attention upon the child, not only as regards its body, but also as regards its mind and emotions, will bring in its train effects of the same nature as those already flowing from the records of medical inspection in the ordinary sense. Just as the medical inspection, by revealing defects, calls out for treatment of these defects, and the treatment for prevention within the ambit of the school organisation and outside this organisation, so the more extended inspection here outlined will call for treatment of defects and for removal of the causes.

And just as medical inspection, acting as it were as a searchlight thrown upon our society, shows in a vivid glare what is wrong, so that the shadows themselves point to the remedy, so will this extended inspection, increasing the brilliance of the searchlight and extending its radius of operations, display even more vividly what needs to be done.

By realising the importance of the health of the child we make that, as it were, a fixed point in our social system, and try and modify everything affecting the child so as to secure that health ; which means an increasingly extending and increasingly important modification of our social system.

Schools for pregnant mothers, baby clinics, nursery schools, school clinics, committees to secure and direct employment after leaving school, clubs for help and training of adolescents, boy and girl scouts, all of these things flow out of our direction of attention to the importance of the child. And all these things, in their turn, act each as the starting-point of a new series of changes in the wages of women, the conditions of housing, the employment of children, the wages of men, and so throughout the social structure. It is as though by concentrating scientific knowledge upon the child, for the service of the child, we had set at work a great growing force which will slowly or quickly move every single atom of the organism of our society, and arrange all atoms in a new, a better, and a more stable order. And if this is true of ordinary medical inspection, it is truer still of mental and emotional inspection. When forces of the mind and emotions are liberated to help in the rearrangement of our social order then, indeed, changes will be great and swift.

Within two generations past the liberation of mechanical forces, through the medium of various inventions, has covered the world with a network of telegraph wires and railways, roads, and steamship routes, and sent a fluttering snow of newspaper information about all things on earth, and some in heaven, into all the tiny villages of the civilised (so-called) areas. Machine production has littered the earth with wholesale products, and the battlefields of nations are marked not only by the graves of the heroic dead, but by the cans of American food companies and oil companies, and the empty little cylinders of compressed carbonic acid gas used for aerated water.

The life of the countryside, the village and little town, has been submerged, although it was the normal human life for thousands of years. Great towns have been built up, thousands of men aggregated together for the convenience of production, old social conditions ruthlessly overridden.

If all this has been done by the liberation of mechanical energy through the mechanical sciences, how much greater the changes which must ensue from a liberation of human mental and emotional energy through the study of man. Two generations of the application of science to the physical, mental, and emotional life of man, and the forces set at work, will have reconstructed our society and recreated the men and women living upon the earth. Physical beauty and vigour will be the rule, emotional development and refinement a thing of every day, æsthetic appreciation and taste the heritage of the "common people," morality understood because men are arranged within themselves, and mind become a great and strong sword to cut through difficulties, a clear, placid eye to see truth through such a blaze as now, perhaps, would blind us, did we even attempt to face its light. And men, being "arranged," will look beyond feeling and mind to the realm of intuition more and more, and their centre of life will be moved in that direction.

An intuitional inspection of children at the present time seems at least difficult in its technique! But physical, mental and emotional inspection will give the teacher power, through knowledge, to see what part the intuition may play; will allow some estimate to be made of capacity for intuition in individual children, and help toward the time when we shall know how to evoke that capacity directly.

Looking back, now, to the beginning of these papers, it becomes clear that the business of the technical experts who are concerned with the care and education of children—the teachers, doctors and others—lies with one chief duty. That duty is to remove the obstacles to the growth of the child on the physical, mental and feeling-tone side of its nature.

A child grows as a flower grows.

A flower pushing up its little head out of the earth draws up its nourishment from the earth that clings about its rootlets; it expands into the sunlight, drinking in air and dew, bathing in the rain storms. The force that is behind it, the growth force—the "soul" if you will—of the plant needs but to be provided with the proper conditions of growth, and then out of a tiny seed it builds up the elaborate, complex, and beautiful organism; expands into the dainty, gracious flower. Just so does a child grow. The force that is behind it, the growth force—the "soul" if you will—needs but to be provided with the proper conditions: the body must be nourished, the emotions must be expanded and watered by gentle dews, the mind must be fed and be shone upon by the light of the sun.

The child does not need to be "made" to do things, "forced to learn," "compelled" to be "educated." The child needs food and love and light, and all sides of its nature will expand. From the soul within the great forces of life pour out. The soul builds out its energies into the beautiful structure of body, feeling, appreciation and delicate fantasy, and clear, luminous thought. To bring out these forces, to see humanity in its true beauty and graciousness, its dignity, even its splendour, we only need to do with love and thought and labour for the child what is done without our help for the flower—and let the child grow.

Remove obstacles, provide the right kind of environment, and the flower of the child soul will come to bloom.

A further consideration also emerges from these papers. Medical inspection is applicable everywhere; it should be applied in all countries where the children of man are born. It matters not whether they be brown, white, yellow, or black, the medical inspector finds that the same help can be given them. And doubtless the same help can be given to the mind and the emotions, although there are likely to be here more interesting divergences.

But the suggestions here made are of universal applicability. Science can be applied to life in all parts of the world, and in all parts of the world will the same great results flow.

Only it is necessary that science be applied in the service of the child; then science cannot fail. And in this work the question for all must be: "How can we best help this younger brother to grow up into full citizenship, to become truly a man?"

THE METHOD OF MEDICAL INSPECTION

CHAPTER I

THE reason for Medical Inspection is very simple. If children are to be properly educated, they must have bodies capable of doing the necessary work. And many children in school have some defect or another which seriously handicaps them.

Many boys and girls are found to be undernourished; one in every ten children in English Elementary Schools is in this condition. Obviously such children are not fit for the strain of hard work. Very many children have bad eyesight; one child in every ten again is the approximate figure. Others have defective hearing (1 to 2 per cent.), enlargement of tonsils and adenoids (about 10 per cent.), consumption (about 1 per cent.), defects of the heart (about 1 per cent.), and numerous other ailments. It might be thought that these defects and illnesses would be noticed by the parent. But this is not so. In fact it often happens that neither child, parent nor teacher has seen anything wrong until the doctor discovers it. What is habitual, child, parent and teacher tend to neglect, unless the trouble caused becomes very obvious. What parents and teachers notice easily is an acute illness. The defects discovered at Medical Inspection are usually chronic, although I have personally discovered cases of Scarlet Fever, Chicken-Pox and acute Bronchitis unknown to parent or teacher. But it is a matter of normal occurrence to discover enlarged tonsils and adenoids, bad eyesight, deafness, heart disease, consumption, spinal curvature, and other ailments which no one had previously thought about. Sometimes a parent will say, when his or her attention is called to the child's condition: "Oh, but the child is always like that." It is the doctor's business to point out that the chronic nature of the ailment makes it more serious, not less, and that the sooner it is attended to the better.

In every country similar defects are found: in America, Australia and Africa as well as in England and Europe and among all races. There is no reasonable doubt that millions of children of school age in India are now suffering from defects which could be remedied, but of which their parents and their teachers remain in ignorance, because no doctor examines the children and finds them out.

The way in which Medical Inspection can be applied to India can, perhaps, be most conveniently discovered by considering existing methods in other parts of the world and adapting their experience to Indian needs. In the account which follows I shall describe the simpler features of the system of inspection in London, under the Education Committee of the Country Council (of which when it was a "School Board" Mrs. Annie Besant was formerly a member), and of the scheme of medical treatment which has followed it.

Children enter the London schools between the ages of three and five years; they remain in the schools until they are fourteen, or, if they are more than ordinarily clever, for a year or so longer. The system of Medical Inspection is arranged so that every child is inspected three times. The first inspection takes place shortly after entering school for the first time, the second about the age of 8, and the third about the age of 12.

The whole area of London is divided into districts, and the schools in these are placed on the list of one of the medical inspectors—men and women are both employed. Each doctor visits each school during each of the three terms into which the year is divided, and the number of visits per term is regulated by the number of children who require to be inspected. The number of children in each school is sent up to the central education office by the Head Teachers, and the Chief Medical Officer arranges how many visits each assistant medical officer shall pay to the school under his charge.

A list of the children to be inspected in any school is made out by the Head Teachers concerned (a London School has usually Infants', Boys' and Girls' Departments with a Head Teacher for each), and when the time for the inspection comes round the teachers receive notice of this and send a letter to the parents of certain of the children to attend on a particular day at a particular time. Inspections are performed in the school buildings and during school hours, either in the morning session or that of the afternoon. The number of children who can be examined by a doctor on one morning or afternoon is about 20.

Every child is inspected in the same routine way, whether it be known to be ailing or defective, or thought to be well. If a defect is discovered special care is taken to discover the precise importance of that defect.

Before the doctor's arrival at the school the teacher has entered on a printed card, sub-divided in headings, the child's name, address, age, standard or class in school, and date of birth. At the inspection, the nurse who assists the doctor weighs each child in its clothes but without its boots, measures the height of each child, asks the mother questions as to diseases from which the child has suffered, and notes the replies in the spaces provided. The nurse also makes the preliminary test of the eyesight. This is performed by standing the child 20ft. from a card of "Snellen's Test Types," each eye being tried separately while a card is held over the other. This simple test enables us to discover the cases of defective eyesight that need attention.

When the nurse has done her part of the inspection, she partially undresses the child and brings it to the doctor stripped to the waist. The lungs are then examined by listening to the breath-sounds with the stethoscope; the heart is also tested. If either lungs or heart are found abnormal, a more careful and detailed examination is made by listening to the chest, tapping it and making other tests. If heart and lungs are normal, the doctor will look at the spine to see whether it is straight or curved, at the arms and legs to see if they are properly developed and equal, at the shape of the chest to see if it is the healthy shape, and also at the abdomen. Passing from this the doctor opens the mouth and looks at the teeth, noticing whether they are regular or irregular, healthy or decayed, counts the decayed teeth, and notes the number on the card. Then the tongue is looked at, and the roof of the mouth and the entrance to the throat, where so often the tonsils are found projecting out from the side. The nose is inspected, and it is noticed whether the child breathes through the mouth or through the nose. Finally the ears are examined, to see if they are healthy and if the hearing is normal.

The nurse has previously examined the eyesight, and if this is found defective the doctor may test it again himself. The nurse has also noticed previously the state of cleanliness of the head and body and of the clothing. Also the conditions of the clothing and boots.

It may be there are still other points to notice ; the child may be normal as far as obvious outer defects go, but very "nervous." Or it may be very backward and dull in its school work. It may stammer or stutter, or have dirty or inconvenient habits. The nurse very often knows something of the child's home from previous visits, and she is asked questions about the condition of the home and as to whether there is enough food at home, and whether there is proper sleeping accommodation. If the parent is present (and it is almost always the mother), she is questioned as to any particular illness in the family, if any hereditary disease is suspected. And the teacher is also asked to lend the aid of the daily observation of the child's life in the school at play and in class.

All the answers and observations are recorded on the child's card under the headings provided, which thus forms a very complete index to the child's physical condition.

CHAPTER II

THE card upon which the result of the Medical Inspection is entered is a very important document. It is essential to have a permanent record of the inspection for future reference, for use at re-inspections (when required), and for comparison at the next routine inspection. The cards used in London are of two colours, blue for boys and white for girls, in order that they may be readily distinguished. The material used for the cards is a fairly stout cardboard which remains rigid in use and in the box where it is filed, and measures about 5 inches by about 8. The face of the card is divided into the headings shewn below.

Each of the vertical columns is used for one inspection, and it will be thus seen that at every inspection after the first the results of previous examinations are immediately at hand.

If a child is normal with regard to any particular subdivision, the usual practice is to note that fact with a dot; age, standard, height, and weight

LONDON COUNTY COUNCIL.

I. NAME .... School......... Dept.........
(*Surname first.*)

Address ....

General Observations.

Date of Birth ....

II. PERSONAL HISTORY ....

(*a*) Previous illnesses of

Child (before admission) ....

Measles ....

Whooping Cough ....

Chicken Pox ....

Scarlet Fever ....

Diphtheria .... Directions to Parent or Teacher.

Other Illnesses ....

(*b*) Family Medical History
(if exceptional) ....

....

....

The back of the card is as under :—

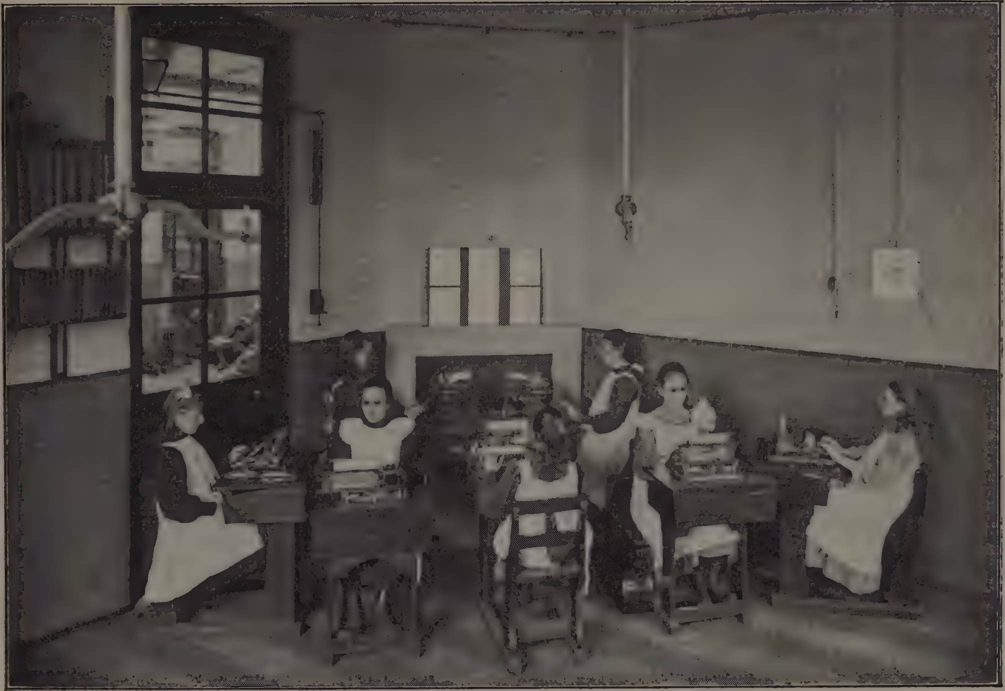
		I.	II.	III.	IV.
1.	Date of Inspection				
2.	Standard and Regularity of Attendance				
3.	Age of Child				
4.	Clothing and footgear				
5.	Height				
6.	Weight				
7.	Nutrition				
8.	Cleanliness and condition of skin—Head				
	Body				
9.	Teeth				
10.	Nose and Throat—				
	Tonsils				
	Adenoids				
	Submax. and cervical glands				
11.	External eye disease				
12.	Vision—*Right*				
	Left				
13.	Ear disease				
14.	Hearing				
15.	Speech				
16.	Mental condition				
17.	Heart and circulation				
18.	Lungs				
19.	Nervous system				
20.	Tuberculosis				
21.	Rickets				
22.	Deformities, Spinal Disease, etc.				
23.	Infectious or contagious disease				
24.	Other disease or defect				
Medical Officer's Initials					

being of course noted in figures. But in the case of condition of clothing, cleanliness, nutrition, teeth, eyesight and mental condition, a record is made by number. The numbers 1, 2, and 3 are generally used; to these an arbitrary meaning is attached: 1, meaning excellent, 2, normal, and 3 bad. In the case of defective teeth the actual number of decayed teeth is noted, and in the case of eyesight the numbers 1, 2 and 3 are not used, but the number of the Snellens test type read at 20 feet distance is recorded, as this is the measure of the vision. With regard to mental condition also more elaborate notes are made. If, however, a child is not normal in other ways; if, for instance, it has heart disease or consumption, then an entry in words is made indicating the nature of the complaint. If further space is required for notes, details may be written out more fully on the front of the record card under the heading "General Observations."

If a child is defective in one or more respects a mark is made on the card against the record of the defect thus: ⊕ a cross within a circle, and at the head of the column in which the result of the inspection is recorded an asterisk, thus* is sketched. At any future time therefore, the doctor, nurse or teacher looking over the cards can at once distinguish the cards of " defective " from those of " normal " children and by glancing down the columns instantly discover the particular defects noted.

Some defects of children need treatment at once; others do not need treatment but do need " supervision." Thus, a child with very bad eyesight or very decayed teeth requires treatment at once. But a child may have been the victim of acute rheumatism causing disease of the heart, and show the obvious results of that disease, but yet be in as satisfactory a condition as can be expected. Nevertheless, the heart may break down at some future time under the ordinary strain of existence. Such a child will be noted for observation, for " supervision," and instead of an asterisk at the top of the column there will be written the letters F. O. (for observation).

The cards of the children requiring treatment and those needing further observation are separated from the others and, in London, a further entry is made on another card, yellow in colour, called a " Following-up " card :



ELM COURT BLIND SCHOOL.—TYPEWRITING.

LONDON COUNTY COUNCIL. "FOLLOWING-UP" MEDICAL RECORD CARD.

Name .... Date of Birth .... 19...
Address .... School ....

Medical report.
Initials .... Date .... 19...

Advice card handed to parent at inspection .... 19...
Advice card delivered by nurse at home.................. 19...

Report on home circumstances.
Visitor .... Date .... 19...

Arrangements suggested for treatment.
Visitor .... Date .... 19...

Treatment obtained through—
(*a*) Private doctor (give name) ....
(*b*) Dispensary or club (,, ,,) ....
(*c*) Hospital (,, ,,) ....
(*d*) Poor Law ....
Visitor .... Date .... 19...

Character of Treatment (with dates).
Visitor ....

Reason why treatment was not carried out.
Visitor .... Date .... 19...

Reinspections by School Doctor :—
Initials .... Date .... 19...
Initials .... Date .... 19...
Initials .... Date .... 19...
Initials .... Date .... 19...

FURTHER HISTORY

This "following-up" card then constitutes a record of the course of treatment (or non-treatment as is too often the case), and upon it doctor, nurse, teacher or social worker helping in the school-work may enter necessary observations. (All parents of inspected children are invited to attend the inspection, and if their children are found defective they are handed a printed card, urging them, for the child's sake, to get treatment. If the parent does not attend the inspection the card is personally delivered at the home by a nurse or social worker.) At the conclusion of a morning or afternoon inspection, the names, addresses, and dates of birth of all "defective" children are entered on a form, with their defects specified. Thus an entry will run :—

Name and Address.	*Date of Birth.*	*Defects.*
Jones, Millicent, 5, Walker Street.	7/10/01.	Defective eyesight 36/18. 7 carious teeth. Anæmia.

This example, which is of course fictitious, would be a bad case, but there are unfortunately many such bad cases.

The form, with all its entries complete and signed by the examining doctor, is sent to the Central Office of the Education Committee.

ELM COURT BLIND SCHOOL. GAMES ON THE LAWN.

In this Central Office, day by day and week by week, are filed the records of the inspections, and the Committee therefore have under their hand, and accessible when required, a complete survey of the work being done.

The children who are found normal at one inspection will come up for inspection again at the ordinary routine periods. The children who are found defective will be re-inspected in the following term, the record on the form being sent from the Central Office to the inspecting doctor for entry of treatment obtained. If nothing has been done, the child (if old enough) is reminded of the necessity of treatment and a further intimation may be sent to the parent, either by letter from the teacher or by visit from a social worker. By this means, in a large proportion of cases in London, the defects of children to which attention is called at an inspection get treated after a longer or shorter period. But London is fortunate in its many medical institutions, and in the new "School Clinics" where elementary school-children are especially provided for.

CHAPTER III

THE Medical Inspection roughly described in the two preceding chapters gives us a mass of information about the physical condition of London children by the use of which they may be divided into various groups. The first division we may make amongst the children is that of separating the children fit for the ordinary schools from those who are unfit. In the course of routine work there are found blind and deaf children, children whose limbs are crippled by old paralysis or by tuberculosis. Others are mentally deficient, in the sense that they cannot profit normally by ordinary instruction (cases for instance who cannot count up to three correctly); some are epileptic; some have seriously diseased hearts or lungs; and there are other disablements from which school children may suffer. All these very seriously defective children are adjudged unfit for the ordinary London schools. The children who are fit for school can again be divided into the children without defects and those who show some defect needing remedy. Those defects of ear, eye, nose and throat, teeth and so forth are so numerous that the existing means of treatment in London by the private doctors, the Dispensaries, the Hospitals and the Poor Law have been found inadequate. The London County Council has made arrangements for special treatment of the defects of school children at a number of "Treatment Centres" or "School Clinics," and at these centres over 2,000 children are treated every week for defective eyesight, diseases of the ear, nose and throat, ringworm, decaying teeth, and the host of skin complaints, discharging ears, inflammation of the eyes, and sundry small troubles with which they are afflicted. And this treatment of children, who in the year approach or exceed 100,000, is in addition to all that obtained from existing institutions.

The children unfit for ordinary schools are dealt with according to the ailment or defect from which they are suffering. The blind children are taught in special schools where touch and hearing take the place of sight. The deaf children in schools where touch and sight (watching and touching a speaking teacher for instance) make up for the deficiency of hearing.

The mentally defective go to classes where special methods, largely making use of the sense of touch and the use of the hands, train up the feeble intelligence until it approaches or, in some few cases, reaches the normal. The children whose weak hearts or whose deformities prevent them from mixing with others have their own specially designed instruction, taking account of their circumstances. The little people who are threatened with consumption are sent to open-air classes in the playgrounds, or to the open-air schools where the children learn out in the open air, sleep in the open air, and eat in the open air.

Other groups of children remain to be catered for, the half-blind, the "very backward" but not mentally defective, the epileptic, the "nervous," and others. These as time goes on will be taught separately, and they and those from whom they are separated can be taught more easily, and more efficiently in consequence.

The routine Medical Inspection enables us roughly to discriminate among all these different classes of children. But more elaborate special examinations are made of those suspected of mental deficiency, consumption, defective eyesight, defective hearing, or any form of "crippling" defect. It is at these special medical examinations that the children are sorted out into their respective classes or groups. But we do not rely only upon the routine inspection in London. Any parent, teacher, nurse, attendance officer (the official charged to discover the reasons of absence from school), who desires a child specially examined, may put their request before the examining doctor, when, if there is any real ground for examination (and often when there appears to be little or none), a "special" inspection will be made. Further, certain classes of children, mentally defective cases for instances, are notified to the chief Medical Officer when they come under the teacher's notice, according to certain prescribed rules designed to prevent unnecessary notification. Quite lately a half-time "psychologist" has been appointed by the Council to assist in the school doctors' work, and the day of a complete "mental," in addition to "physical," inspection is at no great distance in the future.

The system in London which I have now briefly described is designed to give the Education Committee of the Council and their officers a fairly complete view of the physical and mental condition of the children in London schools in so far as that affects their capacity for being educated. It has necessitated the opening of school clinics for medical treatment and of "Special Schools" of one kind or another for the education of particular groups of children. The experience of London has been the experience of other towns and counties, not only in other parts of England but on the continent of Europe, in America and in Australia. Medical inspection of school children is applicable and necessary in all parts of the world.

THE CASE FOR THE SCHOOL CLINIC

The Act of Parliament making medical inspection compulsory has now been in operation in Great Britain for about four years, and already the pressure in the direction of following up the school inspection by school treatment is becoming very great indeed. Medical treatment by means of special agencies under the control of the Education Authorities is allowed under the Act of 1907, but is not compulsory, and in practice such agencies, called School Treatment Centres or School Clinics, have been set up in many towns. And where they have not been set up the statistics of the number of children with defective teeth, with nose, ear and throat defects needing treatment, with defective vision, and with numerous other classes of deficiencies, constantly clamour for attention. Speaking for Great Britain as a whole it is certain that nowhere, outside of specially created school treatment centres, is it possible to get full and satisfactory treatment for all the defects found on inspection. And this is so not only because agencies for the treatment of certain defects of school children do not exist, but because the social circumstances of many children prevent them and their parents making use, even to the extent otherwise possible, of any existing agencies.

From the point of view of treatment, I have found it necessary to divide children into two groups.

(1) That of children with medical defects, but of average or good social circumstances, and (2) that of children with medical defects, whose circumstances are bad or below average. We may call these two groups the Medical Group and the Poverty Group.

And these groups are found existing not only in towns but in country districts. From the poverty group comes the constant reinfection with pediculi (lice) ; from them, probably, school epidemics preponderantly spring, and among them occur the greater number of cases of the malnutrition ; of general neglect, and of failure to get directions for treatment, indicated at medical inspection, carried out. An exact estimate is difficult, and I do not pretend to more than guess at the figure when I suggest 10 per cent. as a low value for the proportion of the poverty group among the school population. But this figure has been found indicated approximately both in town and country districts.

This division into two groups is important, because the purely medical cases can get cured comparatively easily, the poverty cases only with difficulty. To treat a child with obstructed breathing and adenoids who is otherwise fairly sound, and who comes from a decent home, is simple, and cure is probable. The parents of such a child will take trouble to see that the defect is remedied when it is pointed out to them. The decent home and the child's fairly sound condition are an indication that the parents have the desire and probably the time to see that proper treatment is applied. In very large towns, and accessible for most small towns and villages, there are hospitals and dispensaries supplying facilities for treatment, which can be taken advantage of by those having the desire and the time to do so. On the whole the great bulk of children presenting medical defects pure and simple will have those defects attended to by existing institutions when the parents become aware of what is needed, although this does not apply to dental defects. In this respect medical inspection puts the child of the poor man on a level with the child of the rich man, by giving him an expert opinion on what should be done to put the child in the fittest possible condition. Medical inspection does a great work if it makes knowledge available to the parents of all children.

In the case of children presenting medical defects plus poverty, the case is far different. To begin with, such children often present not one or two but a group of defects, and complicated and continuous treatment may be required. The general condition of such children is not good, and the children do not give good results from treatment. Discharging ears in a badly-nourished poor child, for instance, take longer to get well than in a decently-nourished average child. But, worst of all, the parents of such poor children do not take them for medical treatment. Sometimes the parents will not take them—these, I think, are the rarer cases—sometimes the parents do not think medical treatment necessary; these are commoner cases. Sometimes the parents cannot spare the time to get the children treated. This last class is as large as either of the two others, and may in certain localities be larger. In the first group come the children from drunken and vicious homes, in the second from feckless homes, in the third from overworked and underworked homes. We might call them the vicious, the shiftless, and the poor homes.

The remedy for these conditions lies outside the scope of school organization, but the recognition of the existence of these conditions is very much a matter for school authorities. For the plain A B C of the facts is this, that it is no use treating defects of nose and throat, eye and ear, unless you treat the underlying debility of constitution produced by the home conditions. That means remedial school feeding firstly, and open-air schools, school baths and gymnasia among other things as secondary methods. This state of things also means a new organisation for getting the children treated.

It may, in theory, be highly desirable to "insist" on the parents getting remedied the defects pointed out to them by medical inspection. In practice the parents will either not do so or only pretend to do so, for in the matter of getting treatment it is fatally easy to pretend. If the poverty group children are to have their illnesses and ailments remedied, they will have to be (a) fed on a diet designed to improve their physique, and (b) sent to hospital or school clinic in charge of some one from the school by the authority of the school.

The home conditions of such children also need tackling; the necessity of open windows and soap and water need pointing out, and all kinds of complicated little details need discussing with the parents. These are the duties of the Care Committee, but if they are to be effectively carried out, if remedial feeding is to become a reality instead of a pretence, and if medical defects are to be cured, there is only one effective way of doing these things—all of these activities must centre round a school clinic. And the school clinic, the school doctors, and the school nurses must be as much a part of the school organisation as the school teachers.

The average children in Council schools (who are nevertheless below the standard of their own possibilities), and the children with medical defects only, may be put aside for the moment; the children with defects, plus poverty, are an urgent problem demanding instant attention.

Children belonging to the poverty group, as already defined, are the children sprung from the morass of destitution which quakes and shivers around the foundations of our civilisation. These children come from definitely localised neighbourhoods, from particular streets, and from special blocks of model dwellings. The poverty of destitution and demoralisation is spotted over the surface of our towns as concretely as smallpox is spotted over the face of a man sick from this disease. The poverty spots are, however, mouths of the abyss into which human life and our civilisation sink away out of sight of man. And to children coming from the poverty spots it is no use giving a box of ointment or a bottle of lotion to cure their diseases; these things make no impression thrown into the abyss.

A mother equipped with patience, the desire of cleanliness, and the wish for health, may get some good out of a hospital out-patient department, even if the interview accorded by the doctor after hours of waiting be very brief. The mother from the demoralised poverty spot, even if she does arrive at the hospital, will usually get no help of which she can avail herself.

For the poverty group cases are very different from the others.

Take a concrete case, that of a child with a discharge from the ears. The mother of the case I have in mind is a person of tattered, frowzy, and safety-pinned raiment, neither face nor hands are especially clean, the face is coarse in feature and grinningly amiable. The home is in two or three dark, semi-basement rooms, cumbered with backless chairs and decaying furniture. How is it possible for aseptic treatment to be given under such conditions ? Regularity is not understood, any directions given, except with the most laboured simplicity, are not understood. Sometimes the patient does not attend, at others attends in charge of an incompetent person, to whom it is useless to give instructions, and from whom it is impossible to extract reasonable information. In the particular instance quoted, the person in charge was sometimes a drunken grandmother, and once or twice a sister, only a year or two older than the patient. And this case is by no means an especially bad one ; it may even be thought to belong to the aristocracy of the poverty group. It is still possible to treat a child of this kind by the united effort of school nurse, school teacher, school doctor, dispensary doctor, with the casual intervention of the clergyman, the district visitor, and a member of the Care Committee. But there are many children beyond these agencies. One of these is the case of a child attending a school for the mentally defective. The school nurse noticed the discharging ears, and managed, after considerable trouble with minor arrangements, to get the child specially medically examined. At the examination the mother stated that the child was "under treatment." This, it appeared, meant one attendance in six weeks at a hospital out-patient department, where she was given some lotion and some rapid and half comprehended instructions. The mother then consented for a special arrangement to be made whereby the child was to be sent from school to a public dispensary every day, in order that the ears might be properly syringed out and attended to by a nurse. The school doctor gave the mother a letter for the school teacher, to be given by the child, to the effect that the mother agreed to this. Three days afterwards a teacher called on the dispensary doctor to inquire when treatment might begin, as she had heard about it from the nurse. It then appeared that the letter had not been delivered. Another teacher then visited the child's home and secured the school doctor's letter. "It had been forgotten." After this the child attended at the dispensary most days, but never on Saturdays, when it "minded the baby." As soon as the summer vacation began, the child also ceased attending. After the summer holiday the ears, which were in a most serious and foul condition, were found just as bad as they ever had been. The same thing occurred at the Christmas vacation. And these measures taken to get treatment were quite independent of numerous official letters and inquiries about the child, involving the labour of clerks and other officials on a fruitless task.

Even when with great and, compared with the results, disproportionate exertion, such a child has been cured of one definite ailment, it very often presents another. Frequently a poverty group child shows more than one defect, often several defects, and the cure of one may leave the others unaffected, while the cure of all definite ailments may still leave the groundwork of anæmia and a debilitated constitution unaffected. To get a poverty group child into a good state of health often involves prolonged and expensive treatment, one or more operations on ear, glands in the neck, tonsils or adenoids, a stay in hospital and at a convalescent home, and perhaps a prolonged three or six months' holiday in some country cottage, all of which means much money and very much expenditure of time and energy.

To continue the present methods of dealing with the poverty group children is to perpetuate the diseases and defects from which they suffer. Nothing but a special organisation to meet the special case will be of very great service. What is done at present is of immense help in ameliorating disease, in easing pain, in keeping the worst conditions from spreading too widely; but what is done at present is costly, cumbrous, involves great labour, and effects little permanent result, in the poverty group often none.

But medical treatment must be as much a part of the school work as manual training or housewifery, if it is to have a chance to be effective. The educated observation of the teachers will then be at hand, and at the doctor's disposal, to supplement the haphazard observation of the parent; the report of the school Medical Officer and the observation of the school nurse will be available; and the machinery of the school organisation, the school nurse, attendance officer, and Children's Care Committee (a committee of voluntary workers), will be able to be used for the purpose of carrying out necessary instruction in the home and out of school hours. In a word, instead of endeavouring to treat an ailing child by the agency of half-a-dozen badly co-ordinated or entirely separate institutions, with no effective grip anywhere, we shall be treating the same ailment as a part of the school life, with the necessary means entirely at our disposal, and with all the other agencies adequately co-ordinated and properly effective.

My own experience at the St. George's Dispensary and School Clinic in Blackfriars, London, leads me to think that an institution of the kind I have been speaking of may very well supply the need of a group of from sixteen to twenty schools, with a school population of anything up to a thousand each. The premises for such a clinic must have a large waiting-room, one or two rooms for consultations with the doctor, and at least one room for treatment and dressing by the nurse. A doctor and a nurse should be in attendance during school hours, and the head teachers of the neighbouring schools should send there, in charge of the school nurse or other responsible person, all the children who are to have treatment. These children will be roughly those of the poverty group, but they will also include cases of discharging ears, and what are called minor ailments which need daily care, and cannot be attended to at a hospital. It would not be necessary for every clinic to be equipped with much special apparatus; indeed the clinic should act in the first instance as a sorting-out centre. Among the children coming to the institution, some will have defective vision, some obstruction at the back of the nose caused by adenoids, some have discharging ears, and others have threatening or incipient phthisis. Which of these ailments can the school clinic properly treat? Partly this must depend upon the situation of the clinic. If it is near to a good special hospital for eye diseases or for those of nose, throat, or any other special ailments, and if satisfactory arrangements can be made for treatment at that hospital, then it is a waste of energy to multiply treatment centres. But the clinic should always reserve to itself the power to treat any kind of case in the event of a child for any reason failing to go to the special hospital. This does not mean that a recalcitrant eye case should be treated at the clinic, but that the child not getting treatment should be sent to the clinic and arrangements made, through the clinic organisation, for the special treatment needed. All that is often wanted, when parents refuse or fail to get the suggested treatment, is a medical talk, giving them information or reassuring them about some not understood medical mystery.

This hypothetical instance gives the key to the line of treatment which must be adopted. The clinic will be the organisation which sees that the child gets treatment. A large number of cases, those of diseases of the ear, nose and throat, many skin diseases, chest troubles, digestive troubles, and others, would be actually treated at the clinic. But the very severe ear trouble would be sent to hospital, the serious phthisis to the sanatorium, and the serious bone tuberculosis to the special hospital. The clinic, in fact, while acting as a treatment centre for those defects and diseases which can be conveniently and economically treated in an institution fitted up in a simple and inexpensive way, would also act as a sorting centre, and draft off serious and special cases to the institution where their appropriate treatment could be obtained.

The school clinic should work in the closest co-operation with the hospitals and dispensaries, and have standing arrangements whereby certain classes of cases could be sent direct to them as soon as discovered. Some of the arrangements made at present with hospitals for treatment would fit in well. This means in practice that the clinics would only need the simplest apparatus, and that for the complex cases the costly and elaborate hospital organisation would be made use of.

Part of the reason for the establishment of school clinics lies in the fact that without them the large poverty group of ailing children cannot be adequately treated because their parents have not time to, cannot, or will not, take their children to private doctors or hospitals. Nevertheless a clinic may look forward to frequent visit from the parents and every possible endeavour should be made to get the parents to attend. There are very few even of the most demoralised slum dwellers who do not wish to do what they can for the good of their children. But when not only means, but all knowledge is lacking, it is idle to expect the observance of hygienic common sense. Many parents who cannot afford to wait for a whole morning or afternoon, or for the larger part of a day at a hospital, could manage to get to the clinic if a definite hour were fixed. And at these visits a valuable work would be done with the parents themselves.

The clinic should, in fact, become the instruction centre for parents in the art of hygiene, the concrete examples being provided by their own children's ailments. Such concrete hygiene teaching, supplemented, perhaps, by special demonstrations and talks for parents—on the care of the teeth, on breathing and on feeding, for instance—would do more for slum districts and poverty spots than years of abstract lectures in evening schools, admirable as these are.

Above all the clinic must be simple, straightforward, and human. A laughing and a smiling child should be the rule, a solemn or a weeping child the exception. The doctors' and nurses' rooms should be places of happiness and kindliness. In this way the confidence of child and parent will be gained easily, treatment will facilitated, and the parents will try to obey and understand rules of treatment and hygiene. In my own experience I have met very few people incapable of following simple hygienic and medical instructions.

The Clinic and Poverty

In the preceding paragraphs I sketched the organisation of the school clinic largely on its medical side, and indicated how it would deal with medically and surgically remedial ailments and defects. But among the poverty group children the worst disease, upon which the others do indeed largely depend, is poverty itself. Lack of boots, lack of clothing, and lack of food are not matters which the doctor can professionally remedy. But the school clinic should work in the closest touch with the Care Committee, and when the doctor has done all that is possible to put the ailing child straight from his point of view, the Care Committee agency must be called in to remedy poverty defects which otherwise would render (and do now render under present circumstances) all the medical labour in vain. The underfed child must be fed, the underclothed child clothed. The doctor will certify what social factors are likely to cause or allow a relapse of the illness or defect, and it must be the business of the Care Committee to take precautions accordingly.

I have pointed out above how the school clinic allows all cases of ailment or defect in school children to be adequately treated, how it will link up the school organisation more closely with the present school doctors and school nurses, and with the special and general hospitals. How, again, all the activities which have to do with feeding, clothing, " holidaying," and convalescence, may be naturally grouped and co-ordinated with the clinic's medical work. And, how, further, the activity of the clinic and its co-ordinated helpers will stretch beyond its boundaries and beyond the school, will penetrate by means of its visitors into the home itself, bringing the sweetness and light of health to the parents of school children (particularly of the poverty group), clothed in the garb of their own thoughts and ideas, and exemplified by the occurrences of their daily lives.

The school clinic, by medically studying the child, provides a natural centre and rallying-point for all these activities; many agencies which are now working in a scattered and unco-ordinated way for the helping of school children will be centralised by the clinic, organised, and made a hundred per cent. more effective than they now can be.

At present in Great Britain school clinics are being developed on their purely medical side.

Clinics for dental treatment are being established in many places; clinics for treatment of nose, throat and ear defects are also coming into existence. Centres for treatment of visual defects and for ringworm are also numerous, but as yet the special task of dealing with the poverty group children has not been systematically undertaken. The Board of Education, however, are continually urging the necessity of the treatment of "minor ailments," and these so-called minor conditions, which, as the Board themselves point out, are very frequently misnamed, are precisely those conditions most frequently found among the poverty group children, and in the treatment of which Education Authorities will find themselves face to face with the poverty group to which I have particularly drawn attention. In this respect the work of the school nurses must not be omitted, for this most valuable work in connection with cleansing essentially belongs to the conception of school clinic treatment of the poverty group. Neither medical inspection nor treatment can be truly effective if nurses are not more and more employed to see that the directions given are actually carried into effect.

But while on the purely medical side of school clinic organisation it is possible to ignore social agencies and the work of voluntary helpers on Care Committees, from the point of view of the poverty group it is essential to work in the closest co-operation with these agencies. The school clinic must definitely regard itself as an engine for the social improvement of the poverty group, and must heartily co-operate with all agencies which in any way can help it in this work. This undoubtedly means going outside the bounds of ordinary medical work altogether.

In another way an extension of the work is indicated, and that is in the treatment of children below school age. In my opinion, every school clinic should also be an infants' clinic, and we shall probably even find it necessary to extend the inspection of school children to infants, and thus exercise a continual supervision over the growing life of the nation. Also, as a matter of humanity and of convenience, especially when dealing with poverty group cases, it is advisable to treat the mothers and guardians of children who come to the clinic with children for any ailments for which those mothers or guardians may require treatment. To treat these adult cases may just make it possible for them to spare the time from their work to bring the children, and is therefore an important factor in the treatment of the child itself, and finally, as has perhaps been already indicated, it is essential for good work to establish friendly personal relations with poverty group parents and children. Good friendly relations may mean an increase in the efficiency of the work of two or three hundred per cent. We are, in Great Britain, rapidly nearing the day when clinics on these lines will be established in all great centres. And we may hope for great, almost unrealisable changes, when the school clinic pours out health and help and kindliness in every congested and poor district, for then the growth of child life, which now sinks down into the abyss, will spring up and grow healthily into the light and air of good human existence.

Children are the wealth of the nation, and it is for us to safeguard that wealth, that in her hour of trial the nation shall not be found bankrupt.

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